

QUESTION CARD #1

FOR MG Michitsch

(Speaker's Name)

QUESTION Does PEO GCSS agree with the IOC's approach to the Arsenal Act? Does the CG TACOM?

Which 3 star resolves issues the Triad can't agree on – or is it ASA (ALT)?

Answer:

MG Michitsch: The PEO GCSS agrees that the Arsenal Act must be complied with to provide the best value to the Army and Taxpayer. Every PM in the PEO community develops their respective acquisition strategy utilizing best value principals while analyzing alternative acquisition approaches. It is their job to provide the soldier with the best product at the lowest overall costs to the Army and taxpayer; they take it very seriously and it is my responsibility to make sure they do it well. Our approach to Arsenal Act compliance is in line with a best value approach, an Arsenal is selected if they are the best value, that is they can produce a quality product at the lowest costs. When dealing with Systems contractors, the decision on arsenal use for components is left up to the contractor. We want the contractor to be accountable for the total system, so we would not, in most cases, specifically call out that an arsenal must be used.

**MG Arbuckle:** Component breakout assessment should be performed **prior** to a system's buy decision. Consideration of Arsenal use and factories should be exercised early in the system development. That is, Make-Buy analysis must be performed at the component level **first** before going out on a systems contract. It's clear that the intent of the Act and the Hoepfer-McCoy Memo, 22 Oct 99, is to workload the Arsenals when it is economical to do so, on an out-of-pocket basis. Taxpayers have and will continue to expend their dollars to maintain infrastructure at the Arsenals until such time as a decision is made to close them. Whenever Program Managers decide to procure services from the private sector which are already available from the organic base, we, Army, are in fact costing the taxpayers **additional** money by unnecessarily financing multiple sources. It is critical that the Army workload the Arsenals so that their rates become competitive. Lower rates mean more workload/customers resulting in a larger customer base to spread costs to, ultimately reducing the total cost to the taxpayers.

The current proposal is that the AMC Deputy Commander, LTG Link, and the ASA (ALT) Military Deputy, LTG Kern, will jointly resolve issues.

QUESTION CARD #2

FOR MG Michistch

(Speaker's Name)

QUESTION What is the present status of the XM982;  
extended range?

(a) ARL is helping but thinks there maybe Delivery issues.

(b) Will there be Foreign Companies Involved?

Answer:

MG Michitsch: The XM982-D is a 155mm artillery precision guided extended range Dual Purpose Improved Conventional Munition (DPICM) projectile that reduces the range overmatch potential adversaries currently possess, while significantly increasing force effectiveness. It will be compatible with all future digitized 155mm artillery systems in the U.S. inventory. The XM982-D will extend the range of the M190A6 (Paladin) and the lightweight Howitzer to approximately 37 kilometers. With the Modular Artillery Charge System (MACS) in Crusader, a range of 47 kilometers can be achieved. The improved accuracy of the XM982 will reduce the quantity of projectiles to effectively attack targets at longer ranges. Technical progress includes: Gun Fired 54 test projectiles; demonstrated obturation, integrity of payload joints at overstress conditions; Measured Dynamic Loads; and GN&C components airgun tested at overstress conditions.

ARL is involved in supporting the analysis of the projectile design configurations and aeroballistics studies. When you are pushing the state-of -the-art technology there are always challenges to over come and risk areas to address. We are confident that with the tools in place and risk management processes used all technological challenges will be solved.

Currently we have a good Excalibur Team in place and Raytheon is the System Integrator. We are always open to the influx of new technology that will put the best weapon systems in the hands of our soldiers. No foreign involvement is currently in place. We do have foreign activities in the area of a common technology approach for projectiles in the area of Trajectory Correctable Munitions (TCM).

Other Speakers Comments

QUESTION CARD #3

FOR MG Michitsch

(Speaker's Name)

QUESTION \_\_\_\_\_

Why is, or is not, the XM982 tied to the Crusader  
schedule?

XM982 could be used sooner with existing artillery systems.

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Answer:

MG Michitsch: The Excalibur Munition is not tied specifically to Crusader. It will be compatible with all current and future 155mm weapon systems. The XM982-D will result in warfighting and logistical benefits. The logistics savings will come through less tonnage of ammunition required to accomplish the mission. The XM982-D has also demonstrated through simulation a potential reduction of force exchange ratios, hence the warfighting benefits.

The Excalibur munition will also support the precision fire capability of the Medium Brigade.

As for schedule , we are planning initial production quantities of the DPICM variant for the '04 timeframe and '08 for the SADARM and Unitary variants.

Other Speakers Comments

QUESTION CARD #4

FOR MG Caldwell & MG Michitsch

(Speaker's Name)

QUESTION How can precision munitions for the medium

Brigade Combat Teams be identified, evaluated, programmed

and funded quickly to keep pace with platform changes?

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Answer:

MG Michitsch: The munitions aspect of the Brigade Combat teams has been addressed from very early on. My PM for TMAS has worked directly with the ARDEC Tech Director staff to layout options for a complete family of ammunition to include Smart and improved conventional munitions for the expanded target set we envision the brigades are most likely to encounter. This has been briefed to senior decision makers to assure a "Smart" Caliber decision is made relative to technology, warfighting capabilities and consideration given to available stockpiles and foreign compatible ammo.

PM-Mortars has also been very, very active in this process. The PGMM (Precision Guided Mortar Munition) is an ideal candidate for these forces. Significant preparation and consideration has been given to program acceleration for PGMM. Because of its outstanding warfighting, logistical and LC cost benefits it is a perfect fit.

Similarly, the Artillery, Medium and Small Caliber, and Area and Volume Denial BOS and battlefield dynamics are all aggressively offering programs, schedules, budgets and technology options for various caliber decisions.

I would say our best and brightest are working hand in hand with Industry and the transformation IPT folks to assure that right ammo for the right target sets and enemies is married to the platforms and weapons we are pursuing.

The Triad is involved in this and consider the Precision Munitions aspect to be one of it's highest priorities.

Other Speakers Comments

QUESTION CARD #5

FOR \_\_\_\_\_  
(Speaker's Name)

QUESTION Given the closer relationship that the services  
will have in deployment, how does the Army compare to the  
other services in its move to precision munitions?

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Answer:

MG Michitsch: The Army fielded its first generation Smart Munition, Copperhead, nearly 18 years ago. Since then we have invested more than a billion dollars in Smart Munitions. We are ready to, and are producing initial low rates of both SADARM and WAM. Recent tests of SADARM demonstrate it is truly ready at the top zone, a previous area of concern. The AF is on their 3<sup>rd</sup> generation of Smart Munitions in comparison. We are very concerned about this and have dedicated a large effort to get the decision makers to make a few critical decisions on resources. After all, it is a matter of resources. We plan to continue working the issue of finding efficiencies and economies within the current budget to find the resources we need. We are investigating training ammo expenditures as well as the recommendations of the PNNL study with regard to the organic and commercial industrial base, and the internal management structure and expenditures to manage ammo all in an attempt to identify additional resources.

We are looking into marketing Precision Munitions as a major acquisition program in the hopes of convincing DA and DOD to increase both the priority and funding of Smart Munitions.

We are also aggressively pursuing an Air Force "JDAM-like" approach to the interim phase (from conventional to Smart/Precision Munitions) by pursuing low cost competent munitions technology. This will enhance the precision of our current inventory of conventional munitions. The Air Force has had great success with the approach and the Army is evaluating its merits for similar application by working with the User and the Navy who share a similar need for precision enhancement.

From a technology perspective, the Army is in step with the other services as the Technology Base and Industrial Base are both one in the same, mutually consolidated and inclusive.

Other Speakers Comments

QUESTION CARD #6

FOR All Triad Principals

(Speaker's Name)

QUESTION The Currently fragmented ammunition

procurement function within the Army causes inefficiencies

and drives up costs. What is being done to address this

critical issue?

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Answer:

MG Michitsch: The fragmentation is being addressed through the Triad Process. Each individual acquisition strategy shall be analyzed for overall "munitions" best value first by each of the munitions families then across all families. Each family IPT has been tasked to analyze all the acquisition and funding associated with each family and to develop a uniform acquisition approach. Then an integration of each approach will look across families for total Army benefit. This approach is improving fragmentation but it will be some time before the optimum end goal, a unified approach, is reached.

The process began approximately 18 months ago and has consisted of learning the respective life cycle missions and functions performed by each of the TRIAD organizational entities. From that we have grown to comprehensively understand and communicate problems, issues and successes from tech base to demil. From the extensive knowledge base we are now becoming better strategic partners, planners and executors.

We have also addressed the extensive issues of the Industrial Base and we are working many policy issues as a team. There remain issues and areas of controversy but we are working through many of these to gain the requisite efficiencies.

**MG Arbuckle:** United States GAO audit report GAO/NSAID-99-230, Sep 99, "Defense Management Army Could Achieve Efficiencies by Consolidating Ammunition Management" recognized "fragmented management can only be resolved through changes in the current organizational structure and reporting relationships. The GAO recommended the Secretary of Defense direct the Secretary of the Army to establish a timeframe for implementing an Army-wide reorganization to integrate the management of conventional ammo. In considering organizational alternatives, GAO recommended the SEC Army consider a permanent TRIAD Structure."

Improving the fragmentation is one of the functions of the TRIAD and its processes. There exists an IPT for each family of munitions. The IPT's are to assist in the development of the Acquisition Strategy, and manage/monitor the industrial base. It is this communication, cohesiveness, and trust that will reduce inefficiencies. The TRIAD is off to a good start as it has increased communication between the IOC, ARDEC, and PMs to develop a means to achieve Life Cycle Management. The TRIAD has also created a structure for integration and problem solving while continuing to properly support DOD and non-DOD customers. We will continue to use the TRIAD as a means to establish a total life cycle strategy and integrated approach for acquiring ammunition until fragmentation of ammunition management is addressed.

QUESTION CARD #7

FOR MG Michitsch

(Speaker's Name)

QUESTION Initially PEO's were responsible through first unit equipped. Responsibility for life cycle management was then to transfer to AMC. Is this concept dead?

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Answer:

MG Michitsch: I quote the original letter signed by Gen. Wagner, Commander AMC, signed 8 Sep 87, as to the initial responsibility of PEO's.

"The PEO and PM will have life cycle management responsibility for their assigned programs. Total transition to an MSC in the traditional sense will not occur. However, life cycle program management will not diminish the role and responsibility of the MSC for post deployment support. After fielding, more and more of the execution of the day-to-day support for the system will transition to the MSC, and PEO and PM staffs will be reduced to an appropriate level commensurate with their management oversight responsibilities."

This is still the approach. As it relates to munitions, once an item is fielded the execution of that phase becomes more of an MSC function, the responsibility for that item stays in the PEO/PM. The PM community begins to concentrate on product improvements and next generation development of the item.

**MG Arbuckle:** The Life Cycle Management (LCM) definition is one of the areas we have spent much time discussing. One of the key benefits of the TRIAD is that each of the core areas of life cycle management (research, development, production and logistics) is addressed by the TRIAD representatives. Thus each of the IPTs are assuring that LCM concerns are being addressed up front in the development of new items. This focuses the expertise of each element to provide the best product for the user and integrate supportability considerations into the program decision equation. The MSCs still retain their responsibility for execution of the logistic engineering phase of the lifecycle while recognizing the PM's total lifecycle oversight mission. This enables the PM to concentrate his resources to "look to the future" while his partner, the MSC, manages and executes the day-to-day logistic support to the customer, the field user.

Other Speakers Comments

QUESTION CARD #8

FOR MG Caldwell

(Speaker's Name)

QUESTION What role does ManTech play in transforming  
the industrial base and reducing the life cycle?

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Answer:

MG Michistch: ManTech plays a critical role in transforming the industrial base. It provides the resources and expertise to support the transition from development to economical production. Therefore, industry can benefit from ManTech by incorporating proven manufacturing technologies into their production facilities. This provides them with the capabilities to economically and efficiently produce current and next generation munitions.

Due to several years of very low levels of direct Mantech funding, and total reliance on Congressional plus-up, the TRIAD has decided to support a major push in this area. We have experienced many successes from Mantech in the past and we know that the key to the future affordability, quality and producibility of Precision and Modern munitions is dependent upon properly planned Mantech investments.

Other Speakers Comments

QUESTION CARD #9

FOR \_\_\_\_\_  
(Speaker's Name)

QUESTION If three two star generals can't agree on  
organizational roles and missions and then collectively sell the  
concept, who will?

Why not execute PNNL study recommendations?

Answer:

Right now the process is to take issues that cannot be resolved by the PEO GCSS, IOC and TACOM collectively to the ASA (ALT) Military Deputy and the AMC Deputy Commander for resolution. If it is a procurement issue, then the AAE can make the final decision if the two three stars cannot come to agreement.

The Army is executing some aspects of the PNNL study. However the recommendation to put all munitions into the PEO structure and to manage munitions as a major acquisition program seems, for reasons unknown to me, non-executable at this time. The business related recommendations are being addressed through the Triad process.

**MG Arbuckle:** Let me first say that I believe the TRIAD is working. As the TRIAD matures and becomes institutionalized, the necessity to elevate issues to higher authorities will become by far the exception. Should issues not be resolved at the TRIAD level, the process is to take the issues jointly to the ASA (ALT) MIL DEP and the AMC Deputy Commander for resolution. If it is a procurement issue, then the Army Acquisition Executive is in the position to make the final decision. Regarding executing PNNL recommendations, the Army is following the principles of the PNNL study and in many cases executing the recommendations made. PNNL recommendations and principles are being addressed through the TRIAD process. The PNNL recommendation to put all munitions into the PEO structure and manage as a major acquisition program was carefully considered, but it was determined to be in the best interest of the Army to keep them in the current TRIAD structure.

Other Speakers Comments

QUESTION CARD #10

FOR MG Michitsch

(Speaker's Name)

QUESTION How do you reconcile your role as PEO to  
obtain the lowest cost to the government and as a member of  
the Triad for having a genuine concern for the US industrial  
base?

Issue: Off Shore procurement.

Answer:

MG Michitsch: That role is one and the same. I must provide the best value to the taxpayer and always consider what's best for the Army, this does not just mean lowest cost. Each acquisition strategy that is developed by my PM's considers best value and considers impacts on the US industrial base. The analysis complies with CICA, Arsenal Act and more recently Section 806. This legislation requires us to evaluate the criticality of the US industrial base and the need to retain this base. If a critical supplier is impacted, restrictions are obtained through the AAE using the J&A process. This process has enabled us to restrict procurements to the National Industrial and Technology base and to specific sole sources within US.

For those components that are not critical, and will not significantly impact a critical producer, off shore procurement is a viable approach given they are the best value.

**MG Arbuckle:** This is the necessity of the TRIAD. Best value won't always reflect lowest cost; risk is an element as well. The family IPT's are to consider the industrial base in developing their acquisition strategy with the PMs, and in making life cycle decisions and recommendations. It is the integrated approach in developing Acquisition Strategies with the PMs, that will bring about best value for the Army while complying with legislation.

Other Speakers Comments

QUESTION CARD #11

FOR MG Arbuckle (De-Mil) and MG Michitsch (Mod)

(Speaker's Name)

QUESTION Situation: Fewer \$ than reqmts. . . .rqmts are  
valid. . .need to prioritize. . .does it make sense that we are  
spending more on de-mil than for modernization. . .is there  
any trade space in the \$100 million de-mil budget that could  
be applied to modernization? If not, why not. . .it's not costing  
a lot to store for the near term. This is an example of an issue  
that crosses Triad members.

Answer:

**MG Arbuckle:** It is correct that it does not cost much on an annual basis and in relative terms to store the demil stockpile indefinitely -- it's about \$13M annually. But the problem must be analyzed in strategic terms and applied to readiness issues. The demil backlog has risen dramatically over the past 8 years due to the end of the Cold War, military downsizing, base closings, and increased utilization of technologically advanced weapons systems. It appears that this trend will continue, and even at current funding levels, the backlog will not reach a manageable level until well past 2010. Storing the stockpile and deferring demil means the backlog will reach the one million ton mark by 2008. By continuing an aggressive demil program, we can reduce our logistics footprint and provide valuable storage space for the Army to be responsive in deploying stocks in a go-to-war scenario.

**MG Michitsch:** As we all heard many times at the summit, the need to provide the soldier with more lethal, precision munitions is critical and is required to meet the Army's new vision for a survivable and lethal medium force. All munitions funding should be investigated for potential to expedite this vision. If keeping servicable munitions longer in the stockpile can provide some funds to obtain precision munitions, then we should do this. Unsafe munitions must be demilitarized, servicable munitions should be studied for their potential for recovery, reuse or sale of the assets, such as the explosives, projectile bodies and grenades.

Each family team is trying to optimize funds across the life cycle. The teams are recommending innovative approaches to utilizing all the assets within each family, such as using components from demilitarized items for training and recycling of KE penetrators.

Other Speakers Comments

QUESTION CARD #12

FOR MG Arbuckle

(Speaker's Name)

QUESTION Recommended PEO management structure

provides for mgmt function of ammunition. Why couldn't

PEO structure provide mgmt with the executing agents being

the IOC/TACOM providing R&D/Logistics (where expertise

is)? Believe there are benefits in separating mgmt from

execution – would provide one manager – puts responsibility

with accountability).

Answer:

**MG Arbuckle:** This was considered, however, after a GAO study (United States GAO audit report GAO/NSAID-99-230, Sep 99, "Defense Management Army Could Achieve Efficiencies by Consolidating Ammunition Management"), it was determined to be in the best interest of the Army to utilize the TRIAD structure that is being institutionalized. As the TRIAD continues to develop and mature, integration, focus, and cooperation will make us better able to execute the Ammunition mission.

MG Michitsch: Separating management from execution, as PNNL recommended, will provide the optimum solution to solve the fragmentation problem. The Goldwater-Nichols Act was passed to accomplish this, and is why the DoD developed the PEO structure. I believe this to be the optimum solution, but because there are so many "managers" spread throughout the Army the politics of combining management become very difficult. Execution can and should be spread out through the MSC's, efficiencies can only be optimized through centralized management.

Other Speakers Comments

QUESTION CARD #13

FOR \_\_\_\_\_  
(Speaker's Name)

QUESTION Why not use full up ammo for training and rotate the stockage, so you leave new ammo for war stock all the time.

Thus, little or "no" De-mil

Answer:

**MG Arbuckle:** Full-up items that are in the current demil stockpile have undergone an extensive screening process prior to being transferred to the demil account. One of the first questions that is posed to all the services is whether the items would be good candidates for training activities. Sometimes the answer is yes, in which case the items are never transferred into the demil account. But many times the items in question are obsolete or unserviceable and unsuitable for training needs. However, even after items are placed in the demil account they are periodically screened for other uses.

MG Michitsch: This is what the Army does today. But there are many items that, for environmental, range safety and other reasons you cannot train with, such as DPICM and DU tank rounds, that must be demiled and reutilized. The goal should be to utilize as many of the components of rounds that must be demiled for training or in support of war reserves. Examples are recycling of KE penetrators, using artillery shell bodies and fill for training, etc. Artillery propellant is using just this strategy and is included in the Modular Artillery Charge Systems Acquisition plan and roadmap.

Other Speakers Comments

QUESTION CARD #14

FOR MG Arbuckle

(Speaker's Name)

QUESTION Triad works well because current IOC CDR was  
DCS Ammo. What happens when future leadership is diluted  
as ordnance officers (Ammo) leave the Army or do not make  
it up the ladder?

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Answer:

MG Michitsch: MG Arbuckle is a tremendous asset to the Army as a whole, not just the TRIAD however. The Triad works well because of the personalities and experiences of each member, and two of the members were not a DCS Ammo. The Research , Development, Acquisition and Warfighting experience that each member possesses provides the critical expertise to discuss ammo needs and smart acquisition practices. This is not to say that someone who understands the DCS-Ammo staff function so well is not a valuable asset; quite the contrary. Yet, I believe for the TRIAD to survive it will be dependent upon the personalities and professionalism of each member in a complimentary fashion. They must be dedicated to working with one another and keep a constant focus on the overall good of the US Army and not individual needs or organizational unique opportunities at the expense of others and the US Army.

**MG Arbuckle:** The TRIAD came about by the coming together of all three Commands and their recognizing the need for change. What is important about the TRIAD now and the future is the process and policies that we develop and use a foundation that will carry on beyond the tenure of the Commanders. As the TRIAD matures, it will be the foundations laid, as well the cooperation and cohesiveness of the members that will increase efficiencies and decrease life-cycle costs. Blending of expertise from the members into an integrated approach to Acquisition and Life Cycle Management, as well as commitment will be the key to the success of the TRIAD.

Other Speakers Comments

QUESTION CARD #15

FOR All Triad participants

(Speaker's Name)

QUESTION What do you see as the impact of precision

munitions – eg XM982, Excaliber, PGMM, WAM, etc. on the  
industrial base? What is the best model for LCM of these  
products?

Precision munitions will force a change – our warfighting

paradigm – how will we change our design, development, ILS

& product paradigm, including training, to provide

operationally effective & supportable munitions?

Answer:

**MG Arbuckle:** This paradigm you present is a tough issue that we have spent much time addressing. Precision munitions, when affordable and available, will certainly affect the footprint of the industrial base. Logically, precision munitions will have greater lethality and therefore fewer munitions will be required for the target. Therefore, the size of not only production but also storage facilities could be reduced. The dilemma faced is affordability. Even if the precision munitions were available at this time, the funding required to support them is not. Our analysis shows that there will still be a significant requirement for conventional ammunition to support our legacy weapon systems for the next 20 years. As we size/retain the ammunition industrial base we must keep all of this in mind so we don't make investments that will soon be obsolete. The smart piece of the munition will be produced in new facilities, but each component industrial base is still viable for the "dumb" piece. Corresponding to this, I believe that as precision munitions are ready, our warfighters will be required to modify their training. For the most part we are currently training with legacy systems. Precision munitions will push towards more training with simulations or even video game type scenarios.

MG Michistch: I see precision munitions as having a positive impact on the industrial base for both precision and conventional munitions producers because many will be key players in both. For example, the lethal mechanisms in precision munitions will most likely come from the conventional producers. The business shift here will be one from high volume, single purpose facility to a precision low volume, flexible facility. The current munitions producers can build upon their critical skills and production expertise to position themselves for this market.

I believe the munitions buys will become more stable as more and more precision munitions are produced and stockpiled. Much of our instability comes from the constant balancing of replenishment capacity versus product buys. I think everyone acknowledges, as we stockpile more precision weapons, our requirement for conventional ammo replenishment will go down, not away, but significantly down.

The current producers will be most affected by new partnerships, especially with the electronics industry. Our industry was developed because of our uniqueness, and we were able to drive the base to respond to our needs. I believe this will not be the case in the electronics industry, for example. We will not drive that industry, we will have to partner to have them meet our needs.

The best model for precision munitions is to have PM's with total life cycle management. I believe the MSC's will always execute much of the O&S mission. But precision munitions are just coming out of their infancy, and it is not unreasonable to believe that product improvements will be incorporated in short periods, say every three years, and the PM's will have that mission.

Robotics will play a greater and greater role over time. As we see with crusader, the RSV and SPH interface significantly reduces the human need to handle, fuze, load and fire projectiles. It's a matter of pushing buttons and typing computer instructions. That will evolve to voice activation with time as the technology to do that has been demonstrated in other applications.

Training will have to change. Soldiers will practice putting a laser on target or GPS coordinates into a fuze for that precision munitions to find. Simulation will become more and more important as environmental and International restrictions will reduce the live fire training of our forces. As bullets begin to provide feedback to the soldier, the soldier will have to be trained to respond to that feedback quickly and effectively. This will be a large area of training emphasis dealing with the entire Situational awareness technology.

QUESTION CARD #16

FOR Triad

(Speaker's Name)

QUESTION How is the Triad addressing the transfer of life cycle management responsibility to the PM/PEO?

i.e. industrial base planning, stockpile maintenance, De-mil impact on IOC?

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Answer:

**MG Arbuckle:** The TRIAD has business case family IPTs for each family of ammunition. Within each team, there is a PM representative. Each team is required to review all processes, including industrial base planning, in preparation of their final plans. Each of the mission areas is reviewed along with input from the PM to assess all phases in the life cycle. As mentioned in an earlier answer, generally the PEO and PM will have life cycle management responsibility for their assigned items. They rely on the MSCs for field logistics, stockpile management, and installation management support to the PMs. Though the process was fragmented, a GAO study recommended the Army position to Congress is that the TRIAD is the mechanism to integrate life cycle ammunition management.

Other Speakers Comments

MG Michitsch: The Triad has agreed to develop the best life cycle approach to munitions given the current fragmented munitions management organization. The Triad is attempting to implement the PNNL and Army Munitions Business IPT best business practice recommendations. The Triad will not attempt to solve the organizational restructuring recommendations. That is a much higher level decision (AAE/CG, AMC) which at this time is recommending a formalized TRIAD. With this formalization – organizational issues become necessary as processes need to be structured in the context of the current organizational framework. The TRIAD's purpose was to be an interim solution while the Army debated organizational structures. However, today the Triad has been recommended to be the structure to solve both the business and organizational issues.

With regard to Life cycle management; it seems that the PM's are well prepared with the extensive functional support and representation on their family and program specific IPTs, to execute this LCM function. We see effective business practices evolving and continued functional support from all representative organizations. The issues over control of dollars is unresolved, but we are not letting that upset the responsibilities of the LC PM model and the functional support continues to make it work. All aspects of LCM can and should be worked in the IPPD environment created by IPTs. This has been the DoD position and model we are working to.

QUESTION CARD #17

FOR MG Michistch

(Speaker's Name)

QUESTION Given the CSA vision for putting a force on

site in a short time, has anyone looked at the Marine Corps

Doctrine and experience?

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Answer:

MG Michistch: The vision of putting a force on the ground in a short time is not new. The difference will be putting a force that has the “punch” and “staying power” of a heavy force, yet is light enough to deploy rapidly like our light forces which can get around the world in a matter of 96-100 hours. The key again will not be a reliance on deploying troops and waiting for heavier forces and supplies but rolling off into combat and fighting immediately.

The Army has always learned, as has the Marine Corps from previous conflicts and prepared in earnest for future conflicts. The TRADOC schools specifically address this aspect of warfare maturity and application of lessons learned from all sources. The cross talk has existed. This Medium weight force is using that knowledge base and is building the O&O and training profile around the practice it is getting from vehicles leased from other countries. As we integrate new capabilities, insert mature technologies and field the Interim Force, the Brigades, initially 2 and then growing to 5, will train and develop the new tactics, techniques and procedures (TTPs) to defeat any and all forces we may be confronted with. Much of what is learned during these next two critical years should be shared with the SOF and Marines as well as other military force contingents. This is particularly important for MOUT operations. Since the battlefield is evolving from a service centric to multi-service and multi-national forces of today we must assure this learning and training is extended to Joint operations training

Other Speakers Comments

QUESTION CARD #18

FOR MG Michistch

(Speaker's Name)

QUESTION I know you can simulate ammo but how do you  
simulate manufacturing ammo?

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Answer:

MG Michitsch: The specific simulation of ammunition manufacturing or manufacturing in general is possible through several new technologies now available. From solid 3-D modeling, animation, dynamic interaction, process flow modeling, man-machine interface modeling and others make it possible to design efficient manufacturing processes. We can, and have, modelled and animated manufacturing lines to help identify problem areas, optimize flow rates, reduce probabilities of accidents and stoppages etc.... The crusader program has used this technology and more and more programs will benefit from the optimization one can achieve. The results will be efficiencies in material and human resources, optimal process design, safety enhancements, reduced scrap and rework and much better quality. These simulations have extensions to optimize parts flow i.e. "just in time", minimize stockage requirements and better planning for reuse and reutilization, as well as power consumption.

We are also encouraging a better understanding of the manufacturing science of ammo. In addition to the advanced simulation technologies we use for M&S of manufacturing facilities and processes it is also useful to understand ammunition manufacturing science through sustaining a warm capacity and to continually model the processes and critical manufacturing skills from the experiential aspect of learning. The scientist and engineers who develop the model can then optimize it parameters through continual feedback between the factory floor and the model, continually optimizing both. The real challenge is expediting the production of the next generations of ammunition by leverage the understanding of the warm base manufacturing science. The manufacturing model must also be linked to the Research, Development and Engineering efforts to optimize the new munitions producibility and optimize the manufacture process "virtually" prior to the production phase. This is what we are doing with a portion of our ManTech funds today under the Totally Integrated Munitions Enterprise effort.

**MG Arbuckle:** The IOC is also working closely with ARDEC under the Totally Integrated Munitions Enterprise (TIME) initiative in the area of explosive melt-pour. There are continuous changes and improvements occurring in the area of explosive fill that require an optimized production process. What we are currently investigating with ARDEC is the feasibility of linking their melt-pour facility at Picatinny with the melt-pour production line at Iowa AAP. What we hope to accomplish is data transfer and modeling, allowing the scientists and engineers at Picatinny to update their laboratory models with actual production parameters, while also allowing the production engineers at Iowa the benefit of ARDEC's R&D expertise. Under TIME, we would hope to be able to develop an optimized production process model for

something like Insensitive Munitions using realistic production parameters in the laboratory first and then be able to transmit that process model to the melt-pour facility and begin doing actual production.

"The bottom line is that this process will vastly reduce the back-and-forth cycle time between the R&D folks developing new explosive fills and the production folks who actually have to build the end rounds. This technology revolution will allow us to go from the drawing board to prototype to actual production at a far faster rate than has been traditionally the case. Having a laboratory model based upon an actual production line will allow trial-and-error work to take place in the lab or on a computer model rather than on the factory floor. We are excited by these prospects and will go as far as the technology will take us, working closely with our colleagues at ARDEC .

Other Speakers Comments

QUESTION CARD #19

FOR MG Arbuckle

(Speaker's Name)

QUESTION When evaluating private versus organic base  
is consideration given to the private sector's requirement to  
satisfy their stockholders and if long term return isn't there  
they will not remain a source. If so, how evaluated.

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Answer:

**MG Arbuckle:** I need to preface my answer by stating that in conducting our industrial preparedness planning it is always our goal to remain realistic and accurate in the production capabilities relied on whether Government or private contractor owned. This includes recognizing that private sector producers, must remain profitable to continue to exist. Towards this end we conduct financial visibility analyses on producers to assess their long term viability and our ability to rely on them. We also address this in structuring acquisition strategies in determining a realistic opportunity for a return on investment. A number of factors go into assessing a producer's future stability. We also use this assessment in evaluating our reliance/dependency on a producer as well conducting make or buy analyses.

MG Michitsch: What we consider in the PEO when evaluating sources is best value. The first and foremost consideration is Quality, then second is ability to meet Schedule and Costs. We negotiate fair compensation for quality work to the best value contractor. How much the stockholder gets from a fair competition is not our immediate concern. Our primary interest is the product quality and value to our Users. As most of you well know, the government owned contractor operated organic base is run by commercial firms with stockholders. We evaluate them by best value also. We are very much concerned about the long term viability of required producers, and when necessary we perform an Industrial Base Assessment utilizing DoD 5000.60-H as the guideline. This is a comprehensive assessment of many factors guiding the viability of an industry participant. We understand the need for continued long term performance for a company to remain a viable supplier. 5000.60-H and the law such as section 806 assure the appropriate evaluations and protections are afforded the existing base, especially when sources are diminished and at risk.

Other Speakers Comments

QUESTION CARD #20

FOR MG Arbuckle

(Speaker's Name)

QUESTION As the Army builds back the War Reserve

Ammunition Assets will any of the Inactive Army Plants

who previously produced War Reserve item at those plants

be reactivated or will those requirements be filled from

commercial sources?

Answer :

**MG Arbuckle:** We are always reviewing commercial sources for the necessary capabilities and capacities to support our requirements, both War Reserve and Replenishment. Many of our commercial producers have the capability and skills required to support our requirements, and we use them where possible. However, in some cases of replenishment, a larger capacity is required and inactive facilities may provide these necessary production capacities if the commercial producers can not. In other cases the needed capability only exists within the Government-owned base. In the event of a conflict, facilities will be reactivated if needed to support replenishment of stockpile. Government-owned facilities are only retained/maintained if they are required to help meet peacetime and/or emergency production demands.

We have an integrated process team looking at what base capability will be needed in the long term (2025). Opportunities to reduce Government ownership costs continue to be sought.

**MG Michitsch:** From my perspective, the Defense Industrial Reserve Act would require that we first investigate commercial sources and if not available in the commercial market, we would then consider alternatives such as re-starting an inactive base. As a whole our overall strategy needs to consider continued consolidation to a manageable base consisting of the essential unique capabilities.

As for building up the war reserves. The basis of the requirements to do that comes from the various planning exercises and warfight analyses/simulations. The preferred munitions to fill our new future inventories will come from a mix of Modern, Product improved and Smart/Precision munitions. It is envisioned that some of the unique functions like propellant & explosives and a few perhaps, Load, Assemble and Pack (LAP) plants would form the basic minimum. Other areas of specialty may also be required and can be efficiently maintained at PBD 407 levels of capacity. These may be from the Inactive base. Those decisions have not been made but are being looked at. If it makes business sense it will ultimately be done (Re-Activation). Meanwhile many resource issues are being addressed. The outcome with those will drive where we invest our resources.

QUESTION CARD #21

FOR MG Arbuckle

(Speaker's Name)

QUESTION You talked about the value added the organic base brings to the table with regard to replenishment capacity and environmental permits. However, given the inactivity of a number of production capabilities, such as TNT, how is the IOC retaining the critical personnel skills as well as the permits necessary to start-up these lines?

Answer:

**MG Arbuckle:** The dilemma you present is a real challenge to us. We address retention of critical skills in a number of different ways at each of our installations. As a first step we have done studies to identify the true critical skills involved with the various manufacturing operations. Methods then used to preserve/retain these skills identified vary amongst production facilities. In some instances, operating contractors have reassigned key production operators to other areas of the plant so that these critical personnel are retained and could be reassigned back to a production area should production operations once again start up. Through programs such as ARMS work has been brought into production areas that sometimes is able to either retain and/or exercise critical skills. In other areas we have videotaped the shutdown of production operations to attempt to capture key operating parameters and facilitate start up and operations. We are also using new technologies to help address this problem. Programs such as TIME where manufacturing operations between production sites can be linked so as to identify production parameters and monitor production operations can occur. Retention of the critical skills is a major challenge we face that we continue to address. The true production capacities of a site is something that must be realistic and accurate and we think we are taking necessary steps to do that.

MG Michitsch: Critical personnel skills is an issue both in the organic base and commercial bases. We need to understand the manufacturing science of munitions and keep a core of critical production personnel active to know how to implement that science. The example of TNT is a very good one. We should concentrate on understanding nitration manufacturing and use those skills to help start up the line. As years go by, without production, production people become more and more maintenance/caretakers of equipment and can not be relied upon to produce. I think both the Army and commercial producers are losing many of the critical skills we once relied upon to produce high volumes of conventional munitions. The only way to change this is to buy product and not capacity. With a focus on buying product, we exercise the manufacturing capacity, maintain a warm base and that leads to continuous product and process improvements. The mastery of the manufacturing sciences continues in this way both getting continuously better and growing to the appropriate degree of efficient capacity. When we invest in extensive replenishment capacity, in place of production, we lose all that and are left with large maintenance bills, diminishing science of manufacture, no products in our stockpile and the lost ability to restart critical manufacturing lines.

Other Speakers Comments

QUESTION CARD #22

FOR MG Arbuckle

(Speaker's Name)

QUESTION PNNL recommended that the Army establish facility managers for its key quantity distance facilities. This would permit access and investment in these facilities by numerous qualified contractors, and would enhance competition. Does the IOC intend to implement this key recommendation?

Answer: ?

**MG Arbuckle:** Yes, we will implement a facility manager – “site manager” – type of contract when the situation for that type of arrangement is appropriate. Both the XMAT solicitation at Holston AAP and the Small Caliber competition at Lake City were receptive to such an approach if the offerors proposed one and it was determined the best value offer. In the Small Caliber competition the “site manager” concept was outlined to the offerors for their consideration. I think that some of the future competitions will result in a “site manager” arrangement..

MG Michistch: I believe the sooner that the GOCOS can be converted to a contract that allows fair competition between the government base and commercial suppliers the better. Site management seems to be a good mechanism to get there.

Other Speakers Comments

QUESTION CARD #23

FOR All \_\_\_\_\_

(Speaker's Name)

QUESTION How do you retain small businesses specialized  
technology skill base when component break out goes to

GOCO at non competitive price -

example: illumination/IR between Crane & Pine Bluff

(Answer) "Open it to Competition"

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Answer:

**MG Arbuckle:** This is always a balancing act. While private industry can and does provide valuable sources we have to consider the long term to see if they will be with us in lean times as well as periods of plentiful work. The original reasons for establishing organic capabilities are still valid in some cases. The gov't must stay current with technology and capabilities to strike the right balance. We have done some amazing things like XMAT where we have blended a private industry and government strategy to obtain the best of both worlds.

**MG Michitsch:** If there is sufficient small business capacity to meet the needs of the Army in the National Technology and Industrial Base, then there should be competition and small business can take advantage of government programs for small businesses. If however, the technology skill base is directly linked to the critical skills necessary for the greater production required for the soldier, and that capacity is not located anywhere else in the base, then non competitive procedures would be valid.

Other Speakers Comments